Title (en)

FLOW SENSOR AND METHOD USING TEMPERATURE TO IMPROVE MEASUREMENTS FOR LOW RATES

Title (de)

DURCHFLUSSSENSOR UND VERFAHREN ZUR VERBESSERUNG DER MESSUNGEN BEI NIEDRIGEN GESCHWINDIGKEITEN MITTELS TEMPERATUR

Title (fr)

CAPTEUR DE DÉBIT ET PROCÉDÉ UTILISANT LA TEMPÉRATURE POUR AMÉLIORER DES MESURES POUR DES VALEURS FAIBLES

Publication

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Application

EP 22832243 A 20220617

Priority

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Abstract (en)

[origin: WO2023274474A1] A flow sensor (1) configured to measure the flow (Q) of a fluid (26) flowing through a tubular structure (2) is disclosed. The flow sensor (1) comprises a first detection unit (34) that is configured to detect flows (Q) above a predefined lower flow level (QA) representing the lowest flow (QA) that can be measured by using the first detection unit (34). The flow sensor (1) comprises a second detection unit (36) that comprises: - a first temperature sensor (12) arranged and configured to detect the temperature (Ts) of the surroundings (the ambient temperature); - a second temperature (14) arranged and configured to detect the temperature (Tf) of the fluid (26); - a data processor (10) connected to the temperature sensors (12, 15 14). The second detection unit (36) is configured to estimate the flow (Q) below the lower flow level (QA) on the basis of the temperature difference between the surroundings and a fluid (26). The temperature difference between is measured by the first temperature sensor (12) and the second temperature sensor (14). The second detection unit (36) is configured to estimate the flow (Q) below the lower flow level (QA) on the basis of one or more measurements (M1, M2) made in a flow area (B2), in which the flow sensor (1) can detect the flow (Q) and in which the flow (Q) depends on the temperature difference (ΔTsf). The one or more measurements (M1, M2) made in the flow-calibration-area (B2) are used to determine parameters required to determine how the flow (Q) depends on the temperature difference (ΔTsf) in the flow-calibration-area (B2) and in the flow area (B1) below the flow-calibration-area (B2).

IPC 8 full level

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